

selectively introducing a metal element which promotes crystallization to a region before or after formation of the amorphous silicon film; and
crystallizing the amorphous silicon film by heating;

wherein crystal growth is performed in a direction approximately parallel to a surface of the substrate from the region, and [the other] in another region where no metal element [is] was selectively introduced [has the amorphous silicon film] the silicon film remain amorphous.

4. (Amended) A method for fabricating a semiconductor device used for an active matrix type liquid crystal display, comprising:

forming a substantially amorphous silicon film on a substrate;

selectively introducing a metal element which promotes crystallization before or after formation of the amorphous silicon film; and

crystallizing and growing the amorphous silicon film into polycrystalline silicon from a region in which the metal element has been selectively introduced, in a direction approximately parallel to a surface of the substrate by heating;

wherein [the other region no metal element has been selectively introduced has the amorphous silicon film] another region where no metal element was selectively introduced the silicon film remains amorphous, and

wherein thin film transistors are formed in the region to approximately parallel a carrier moving direction within the thin film transistor with the crystal growth direction of a crystalline silicon film and the other thin film transistors are formed on the other region.

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14. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region [has the silicon film having the amorphous] where the silicon remains amorphous, and

wherein a concentration of the metal element included in the crystal growth region is higher than that included in the another region.

15. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and

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another region [has the silicon film having the amorphous] where the silicon remains amorphous, and

wherein a concentration of the metal element included in the crystal growth region is 1×10^{15} to 5×10^{19} atoms/cm³.

18. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate having a glass strain point of 593°C or less;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region [has the silicon film having the amorphous] where the silicon remains amorphous.

20. (Amended) A method for fabricating a semiconductor device for an active matrix type liquid crystal display having a peripheral driving circuit portion and a picture element portion, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

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crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region [has the silicon film having the amorphous] where the silicon remains amorphous;

[wherein the crystal growth region has at least one of thin film transistors provided as the peripheral driving circuit portion and the another region has at least another one of the thin film transistors provided as the picture circuit portion]

wherein at least one thin film transistor is provided in both the crystal growth region and the another region, and wherein said crystal growth region comprises the peripheral driving circuit portion and the another region comprises the picture circuit portion.

22. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region [has the silicon film having the amorphous] where the silicon remains amorphous; and

wherein the crystal growth region and the another region each includes hydrogen.

23. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having a first crystallinity on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film[, to introduce the] and introducing said metal element into an introducing region of the silicon film; and

crystallizing the silicon film using the metal element,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region having a second crystallinity higher than the first crystallinity and another region [has the silicon film having the amorphous] where the silicon remains amorphous.

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Cont.

24. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

preparing nickel before or after formation of the silicon film[, to introduce the] and introducing said nickel into an introducing region of the silicon film; and

crystallizing the silicon film using the nickel,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and

another region [has the silicon film having the amorphous,] where the silicon remains amorphous; and

wherein the crystal growth region includes nickel.

25. (Amended) A method for fabricating a semiconductor device, comprising the steps of:

forming [a] an amorphous silicon film [having an amorphous] on a substrate;

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preparing nickel before or after formation of the silicon film[, to introduce the] and introducing said nickel into an introducing region of the silicon film; and

crystallizing the silicon film using the nickel,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region [has the silicon film having the amorphous,] where the silicon remains amorphous; and

wherein the crystal growth region and the another region each includes the nickel and a concentration of the nickel included in the crystal growth region is higher than that included in the another region.

REMARKS

This amendment responds to the Official Action mailed October 13, 1995. Filed concurrently herewith is a *Request for a One Month Extension of Time* which extends the shortened statutory period of response to February 13, 1996. Accordingly, applicant respectfully submits that this response is being timely filed.